The amendment to claim 1, which restricts the genus "allergy symptoms not associated with respiratory congestion" to the group consisting of headache, irritated eyes and lethargy, is supported by the specification. Specifically, this group of symptoms are disclosed in Examples XXXI, XXXII, and XXXIII on page 18 of the specification. The amendment to claim 8, which restricted the genus "asthma symptoms not associated with respiratory congestion" to the symptom constriction of airways are fully supported. Specifically, the constriction of airways is well-known by one of ordinary skill to be a symptom of asthma, and a patent need not teach, and preferably omits, what is well known in the art. See *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991).

A copy of the amendments made herein with markings to show changes made is provided as Appendix A. Also, a copy of the pending claims after amendments is provided as Appendix B.

II. The Outstanding Rejections

Claims 1-7 stand rejected under 35 U.S.C. §112 (first paragraph) for failing to enable treatment of allergy symptoms not associated with respiratory congestion in a patient via any route of administration.

Claims 8-14 stand rejected under 35 U.S.C. §112 (first paragraph) for failing to enable treatment of asthma symptoms not associated with respiratory congestion in a patient via any route of administration.

Claims 1-15 and 20 stand rejected under 35 U.S.C. §112 (second paragraph) for being indefinite; claims 1-7 because "the allergy symptoms not associated with respiratory congestion" lacks antecedent basis; claim 8 because the phrase "not associated with respiratory congestion" is indefinite; and claim 20 fails to further limit claim 15 from which it depends.

Claims 8-14 stand rejected under 35 U.S.C. §102(e) as being anticipated by McMichael, U.S. Patent No. 6,100,244; McMichael, U.S. Patent No. 5,955,442; McMichael, U.S. Patent No. 5,726,160; and McMichael, U.S. Patent No. 6,096,721.

Claims 1-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McMichael, U.S. Patent No. 6,100,244; McMichael, U.S. Patent No. 5,955,442; McMichael, U.S. Patent No. 5,726,160; and McMichael, U.S. Patent No. 6,096,721 in view of Kuby (Immunology, Kuby ed., page 360 (1992)).

Claims 1-7 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of McMichael U.S. Patent No. 5,955,422 or claims 1-7 of McMichael U.S. Patent No. 5,726,160 in view of Kuby (Immunology, Kuby ed., page 360 (1992)).

Claims 8-14 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of McMichael U.S. Patent No. 5,955,422 or claims 1-7 of McMichael U.S. Patent No. 5,726,160 in view of Murray (The Textbook of Respiratory Medicine, (1988)).

III. Patentability Arguments

A. The Rejections of Claims 1-7 Under 35 U.S.C. §112 (First Paragraph) Should Be Withdrawn.

The rejections of claims 1-7 under 35 U.S.C. §112 (first paragraph) for failing to enable treatment of allergy symptoms not associated with respiratory congestion should be withdrawn as the claims have now been amended to recite the allergy symptoms of headache, irritated eyes, and lethargy. In addition, the rejection of claims 1 and 3-6 for failing to enable

treatment via any route of administration should be withdrawn as amended claims relate to treatment via sublingual administration.

The disclosure, particularly in Examples XXXI, XXXII, and XXXIII, enable the treatment of the allergy symptoms of headache, irritated eyes, and lethargy.

These examples are working examples and not prophetic as the Patent Office remarks in the current Office Action. Applicant confirms that these examples are working examples in the McMichael Declaration under 37 C.F.R. §1.132, filed along with the April 20, 2001 Amendment and Response. The current pending claims relate to treatment of the asthma symptoms headache, irritated eyes, and lethargy, and are not directed to treatment of allergy symptoms associated with respiratory congestion

While Applicants maintain that the specification enables treatment by multiple modes of administration, the claims have been amended to recite only sublingual administration in order to expedite allowance.

Accordingly, the rejections of claims 1-7 under 35 U.S.C. §112 (first paragraph) should be withdrawn.

B. The Rejections of Claims 8-14 Under 35 U.S.C. §112 (First Paragraph) Should Be Withdrawn.

The rejections of claims 8-14 under 35 U.S.C. §112 (first paragraph) as failing to enable treatment of symptoms in an asthma patient should be withdrawn as the claims have now been amended to recite the asthma symptom of constriction of airways which is not associated with respiratory congestion.

Those of ordinary skill in the art of pulmonary disease understand that one class of pulmonary disease have in common the production of large amounts of sputum, which is the cause of respiratory congestion, while another class of pulmonary diseases, including asthma and

other chronic obstructive pulmonary diseases have in common chronic expiratory airflow limitation. The current amended claims relate to the symptom of asthma constriction of airways and not the symptoms associated with respiratory congestion. This is further supported by the facts provided in the Declaration of John McMichael (paragraph 3) filed along with the April 20, 2001 Amendment and Response. The McMichael Declaration states that the practice of the method of the invention was successful in alleviating the constriction of airways of two subjects (subjects in Examples XXXIV and XXXV) in a manner which allowed them to carry out the activities of daily life. As evidence that these results were not the product of clearance of respiratory congestion, the Declaration states that beneficial results were unaccompanied by a productive cough, which normally expels the congestion causing sputum.

While Applicants maintain that the specification enables treatment by multiple modes of administration, the claims have been amended to recite only sublingual administration in order to expedite allowance.

Accordingly, claims 8-14 are fully enabled and the rejections of claims 8-14 under 35 U.S.C. §112 (first paragraph) should be withdrawn.

C. The Rejection of Claims 1-15 and 20 Under 35 U.S.C. §112 (Second Paragraph) Should Be Withdrawn.

The rejections of claims 1-15 and 20 under 35 U.S.C. §112 (second paragraph) for indefiniteness and lack of antecedent basis should be withdrawn because the claims have been amended to recite specific allergy symptoms not associated with respiratory congestion those symptoms being headache, irritated eyes, and lethargy. The claims as amended clearly define the metes and bounds of this aspect of the present invention. Further, the amended claims also provides proper antecedent basis for the phrase "the allergy symptoms not associated with

respiratory congestion. In addition, claim 20 has been canceled. Accordingly, the rejections of claims 1-15 under 35 U.S.C. §112 (second paragraph) should now be withdrawn.

D. The Rejection of Claims 8-14 Under 35 U.S.C. §102(e) Should Be Withdrawn.

The rejection of claims 8-14 directed to treatment of asthma under 35 U.S.C. §102(e) over McMichael, U.S. Patent No. 6,100,244 ('244); McMichael, U.S. Patent No. 5,955,442 ('442); McMichael, U.S. Patent No. 5,726,160 ('160); and McMichael, U.S. Patent No. 6,096,721 ('721) should be withdrawn because to the extent that treatment of asthma symptoms is disclosed in any of these references that treatment was derived from the sole inventor (McMichael) of the subject matter of claims 8-14 in the present application. In support, the McMichael Declaration accompanying the April 20, 2001 Response states this fact. Co-inventor Allen is only a co-inventor with respect to claim 15.

Accordingly, the disclosed invention in the McMichael Patents are not inventions "by another;" therefore, the rejection of claims 8-14 under 35 U.S.C. §102(e) should be withdrawn.

E. The Rejection of Claims 1-7 Under 35 U.S.C. §103(a) Should Be Withdrawn.

The rejection of claims 1-7 under 35 U.S.C. §103(a) over McMichael, U.S. Patent No. 6,100,244 ('244); McMichael, U.S. Patent No. 5,955,442 ('442); McMichael, U.S. Patent No. 5,726,160 ('160); and McMichael, U.S. Patent No. 6,096,721 ('721) in view of Kuby should be withdrawn because the cited references, combined or alone, fail to render obvious the claimed method for treating allergy symptoms headache, irritated eyes, and lethargy, which are not associated with respiratory illness and, particularly, respiratory congestion.

The '244, '442, '721, and '160 Patents disclose methods of treating respiratory illness comprising administration of DNA. The respiratory illness is associated with respiratory congestion. The disclosed methods work by helping to reduce viscosity of the mucus in the

respiratory tract by reducing mucus production. Additionally, the '244 and '721 Patents disclose another aspect of the method of treating respiratory illness, the method comprising treating symptoms of respiratory distress not associated with aberrant mucous accumulation. The disclosed respiratory illnesses with this characteristic are chronic obstructive pulmonary disease including bronchitis, emphysema and asbestosis and asthma.

Kuby disclose anaphylaxis, a class of allergic reactions, which is associated with hay fever. Symptoms can include watery exudation of the conjunctivae, nasal mucosa, and upper respiratory tract as well as sneezing and coughing. Asthma is also disclosed as another manifestation of anaphylaxis, which is associated with constriction of the bronchioles and obstruction of the airway causing difficulty in breathing.

Applicants' amended claims 1-6 are not directed to symptoms associated with respiratory congestion or obstruction of airways, but are directed to the allergy symptoms of headache, irritated eyes, and lethargy. Therefore, there is no suggestion or teaching in the prior art of a treatment of allergy symptoms headache, irritated eyes, and lethargy by administration of DNA. Accordingly, the rejection of claims 1-7 under 35 U.S.C. §103(a) over the '244, '442, '160, and '721 Patents in view of Kuby should be withdrawn.

F. The Double Patenting Rejection of Claims 1-7 Should Be Withdrawn.

The double patenting rejection of claims 1-7 over claims 1-6 of McMichael U.S. Pat. No. 5,955,442 or claims 1-7 of McMichael U.S. 5,726,160 in view of Kuby should be withdrawn since the claims of the cited McMichael patents in view of Kuby do not render current claims 1-7 obvious because those claims are direct to methods of relieving respiratory congestion whereas the current claims 1-7 are directed to methods of treating allergy symptoms **not** associated with respiratory congestion those symptoms being headache, irritated eyes, and

lethargy. Although allergy patients may have respiratory congestion, there is no teaching in the prior art that suggests successful treatment of the non-congestion symptoms of allergies using a treatment for respiratory congestion.

One of ordinary skill would not know that the allergy symptoms headache, irritated eyes, and lethargy, which are symptoms **not** associated with respiratory congestion, could be successfully treated with the methods of the McMichael patents which were directed towards relieving respiratory congestion. Accordingly, the obviousness-type double patenting rejection of claims 1-7 should be withdrawn.

G. The Double Patenting Rejection of Claims 8-14 Should Be Withdrawn.

The double patenting rejection of claims 8-14 over claims 1-6 of McMichael 5,994,442 or claims 1-7 of McMichael U.S. 5,726,160 in view of Murray should be withdrawn because the McMichael '442 and '160 claims are directed to methods of relieving respiratory congestion whereas the current claims 8-14 are directed to methods of treating the asthma symptom of constriction of airways, which is **not** associated with respiratory congestion. While Murray may teach that asthma patients may also have respiratory congestion, there is no teaching in Murray or McMichael '442 and '160 that suggests successful treatment the asthma symptom of constriction of airways which is **not** associated with respiratory congestion.

Additionally, this rejection based upon McMichael U.S. Patent No. 6,100,244 should be withdrawn since Applicants have filed a Terminal Disclaimer over the '244 Patent, submitted herewith.

For these reasons, the obviousness-type double patenting rejection of claims 8-14 should be withdrawn.

CONCLUSION

For all of the foregoing reasons, the rejections should now be withdrawn and allowance of all pending claims 1-6, 8-13, and 15-19 is respectfully solicited. Should the Examiner wish to discuss any issues of form or substance in order to expedite allowance of the pending application, he is invited to contact the undersigned attorney at the number indicated below.

Respectfully submitted,

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By: _____
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September 20 2001

APPENDIX A

VERSION WITH MARKING TO SHOW CHANGES MADE

In the Specification:

Please amend the specification as follows.

Please replace the paragraph on page 1, starting on line 3 with the following paragraph:

--This application is a continuation-in-part of U.S. Patent Application Serial No. 09/432,948 filed November 3, 1999, issued August 8, 2000 as U.S. Patent No. 6,100,244, which is a continuation-in-part of U.S. Patent Application Serial No. 09/037,895 filed March 10, 1998, issued August 1, 2000 as U.S. Patent No. 6,096,721, which is a continuation-in-part of U.S. Patent Application Serial No. 08/755,092 filed November 22, 1996, issued March 10, 1998 as U.S. Patent No. 5,726,160 which is a continuation of U.S. Patent Application Serial No. 08/421,232 filed April 13, 1995.--

Please replace the paragraph on page 14, starting on line 9 with the following paragraph:

--According to this example, a five year old female presented with severe recurrent otitis media in the right ear with bulging of the tympanic membrane. The subject was treated with sublingual administration of one drop of DNA (0.0006 mg/drop) four times daily for seven days. When the subject was rechecked two days later the mother reported the child's temperament and energy improved the first evening. She went to school the next day. On exam, she had an [injected] infected tympanic membrane, but the bulging was gone. Significantly, this subject has been treated for OM numerous times in the past with antibiotics.-

In the Claims:

Please cancel claim 7, 14, and 20.

1. [AMENDED TWICE] A method for treating allergy symptoms not associated with respiratory congestion selected from the group consisting of headache, irritated eyes and lethargy in a patient, comprising the step of:

administering through a sublingual route in a manner so as not to effect gene transfer an effective amount of DNA in a pharmaceutically-acceptable vehicle to a patient having allergy symptoms such that the allergy symptoms not associated with respiratory congestion selected from the group consisting of headache, irritated eyes and lethargy are reduced.

8. [AMENDED TWICE] A method for treating the asthma symptom[s] of constriction of airways which is not associated with respiratory congestion in a patient, comprising the steps of:

administering in a manner so as not to effect gene transfer a therapeutically effective amount of DNA in a pharmaceutically-acceptable vehicle to a patient having the asthma symptom[s such that the asthma symptoms] of constriction of airways which is not associated with respiratory congestion [are]is reduced.

APPENDIX B

PENDING CLAIMS AFTER AMENDMENT

1. A method for treating allergy symptoms not associated with respiratory congestion selected from the group consisting of headache, irritated eyes and lethargy in a patient, comprising the step of:

administering through a sublingual route in a manner so as not to effect gene transfer an effective amount of DNA in a pharmaceutically-acceptable vehicle to a patient having allergy symptoms such that the allergy symptoms not associated with respiratory congestion selected from the group consisting of headache, irritated eyes and lethargy are reduced.

2. The method according to claim 1 wherein said DNA is administered sublingually in the form of a liquid drop.

3. The method according to claim 1 wherein said vehicle is selected from the group consisting of water, saline, albumin, or dextrose.

4. The method according to claim 1 wherein said effective amount of DNA is from about 0.00012 mg to about 0.003 mg DNA.

5. The method according to claim 1 wherein said effective amount of DNA is about 0.0006 mg of DNA.

6. The method according to claim 1 wherein said patient is a human.

8. A method for treating the asthma symptom of constriction of airways which is not associated with respiratory congestion in a patient, comprising the steps of:

administering in a manner so as not to effect gene transfer a therapeutically effective amount of DNA in a pharmaceutically-acceptable vehicle to a patient having the asthma symptom of constriction of airways which is not associated with respiratory congestion is reduced.

9. The method according to claim 8 wherein said DNA is administered sublingually in the form of a liquid drop.

10. The method according to claim 8 wherein said vehicle is selected from the group consisting of water, saline, albumin, or dextrose.

11. The method according to claim 8 wherein said effective amount of DNA is from about 0.00012 mg to about 0.003 mg DNA.

12. The method according to claim 8 wherein said effective amount of DNA is about 0.0006 mg of DNA.

13. The method according to claim 8 wherein said patient is a human.

15. A method for treating symptoms of otitis media, comprising the step of:

administering eardrops to the ear in a manner so as not to effect gene transfer an effective amount of DNA in a pharmaceutically-acceptable vehicle to a patient having otitis media such that pain symptoms associated with otitis media are reduced.

16. The method according to claim 15 wherein said vehicle is selected from the group consisting of water, saline, albumin, or dextrose.

17. The method according to claim 15 wherein said effective amount of DNA is from about 0.00012 mg to about 0.003 mg DNA.

18. The method according to claim 15 wherein said effective amount of DNA is about 0.0006 mg of DNA.

19. The method according to claim 15 wherein said patient is a human.